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ABSTRACT

The Clinton Cassette Project was begun during 1969-70 to find out if children with reading problems could learn their lessons by listening to them on cassette tapes. This project was the first to include setups for individual and group listening in every classroom in an elementary school. Many tapes were produced and duplicated at Clinton School, Minneapolis, Minn. Goals for 1970-71 were 1) to create a library of cassette tapes that elementary teachers would consider meaningful and useful and 2) to get the tapes into daily use. During the year staff members built a library of 884 tapes, mostly in language arts, literature, mathematics, social studies, and science. The tapes were used primarily by the 148 children at the school classified as educationally disadvantaged. They used the tapes 8,155 times during 1970-71. In 1971-72, the task of individual prescription will be stressed. This report includes a description of how the prescription process works, as well as recommendations about expanding the project into all Title I schools in the district. Teachers' replies to a questionnaire showed they were enthusiastic about the project. For related documents, see EM 010 411 and EM 010 403. (JK)

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Clinton Pilot Cassette Center
Project Director's Report
1970 - 1971

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Audiovisual Coordinator
and
Mary P. Schouweiler
Curriculum Coordinator
with
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A Title I, ESEA Project

Ideas expressed in this report do not necessarily reflect the official position of the Minneapolis Public School Administration nor the Minneapolis School Board.

January 1972

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Research and Evaluation Department
Educational Services Division
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Minneapolis Public Schools

Clinton Pilot Cassette Center Project
Director's Report, 1970-71

Summary

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The Clinton Cassette Project was launched during 1969-70 to find out if children with reading problems could learn their lessons by listening to them on cassette tapes.	8
It's an ESEA Title I pilot project. Although other school systems have used cassette tapes as teaching aides, the Clinton project was the first to include setups for individual and group listening in every classroom in an elementary school.	
Another unique aspect of the project is that the tapes were produced and duplicated right at Clinton School by two veteran educators.	9
Goals for 1970-71 were (1) to create a library of cassette tapes that elementary teachers would consider meaningful and useful, and (2) to get the tapes into daily use.	9, 10
During the year staff members built a library of 884 tapes, mostly in language arts, literature, math, social studies and science. Fifty-seven percent of the tapes were produced at Clinton; others were purchased from radio stations, other school systems and commercial firms. Because the primary activity in using the tapes is listening and following along visually, most tapes were packaged with a printed page, a book, a film strip or slides.	16-20
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The report includes a description of how the prescription process works. Working with an aide, seven fourth graders who couldn't handle basic math facts and had poor study and behavioral habits, were given 10 half-hour sessions listening to a set of nine tapes on addition and nine on subtraction designed to teach 100 basic facts about math. On the post-test the children showed an average gain of 84 percent in addition and 71 percent in subtraction.	
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* * *

January 1972

Research and Evaluation Department
Educational Services Division

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About this report . . . . . .

All evaluation reports prepared by the Research and Evaluation Department of the Minneapolis Public Schools follow the procedures and format described in Preparing Evaluation Reports, A Guide for Authors, U. S. Department of Health, Education and Welfare.

Readers who are familiar with these Evaluation Reports may wish to skip the first two sections describing the City of Minneapolis and the Minneapolis Public Schools since these descriptions are standard for all reports.

The City of Minneapolis

The program described in this report was conducted in the Minneapolis Public Schools. Minneapolis is a city of 434,400 people located on the Mississippi River in the southeastern part of Minnesota. With its somewhat smaller twin city, St. Paul, it is the center of a seven county metropolitan area of over 1,874,000, the largest population center between Chicago and the Pacific Coast. As such it serves as the hub for the entire Upper Midwest region of the country.

The city, and its surrounding area, long has been noted for the high quality of its labor force. The unemployment rate in Minneapolis is lower than in other major cities, possibly due to the variety and density of industry in the city as well as to the high level capability of its work force. The unemployment rate in May of 1971 was 4.7%, compared with a 6.2% national rate for the same month. As the economic center of a prosperous region rich in such natural resources as forests, minerals, water power and productive agricultural land, Minneapolis attracts commerce and workers from throughout the Upper Midwest region. Many residents are drawn from the neighboring states of Iowa, Wisconsin, Nebraska and the Dakotas as well as from the farming areas and the Iron Range region of outstate Minnesota.

More Minneapolitans--three out of 10--work in clerical and sales jobs than in any other occupation, reflecting the city's position as a major wholesale-retail center and a center for banking, finance and insurance. Almost as many (27%) are employed as craftsmen, foremen and operatives, and one out of five members of the work force are professionals, technicians, managers, and officials. Fewer than one out of five (17%) workers are employed in laboring and service occupations.

Minneapolis city government is the council-dominated type. Its mayor, elected for a two year term has limited powers. Its elected city council operates by committee and engages in administrative as well as legislative action.

Minneapolis is not a crowded city. While increasing industrial development has occupied more and more land, the city's population has declined steadily from a peak of 522,000 in 1950. The city limits have not been changed since 1927. Most homes are sturdy, single family dwellings built to withstand severe winters. Row homes are practically non-existant even in low income areas. In 1970, 48% of the housing units in Minneapolis were owner-occupied.

Most Minneapolitans are native born Americans, but about 35,000 (7%) are foreign born. Swedes, Norwegians, Germans, and Canadians comprise most of the foreign born population.

Relatively few non-white citizens live in Minneapolis although their numbers are increasing. In 1960 only three percent of the population was non-white. The 1970 census figures indicate that the non-white population has more than doubled (6.4%) in the intervening 10 years. About 70% of the non-whites are Black. Most of the remaining non-white population are Indian American, mainly Chippewa and Sioux. Only a small number of residents from Spanish-speaking or Oriental origins live in the city. In 1970 non-white residents made up 6.4% of the city's population but accounted for 15% of the children in the city's elementary schools.

Minneapolis has not yet reached the stage of many other large cities in terms of the level of social problems. It has been relatively untouched by racial disorders or by student unrest. Crime rates are below national averages. Continuing concern over law and order, however, is still evidenced

by the election two years ago and the recent re-election of Mayor Charles Stenvig, a former police detective.

One's first impression is that Minneapolis doesn't really have serious problems of blight and decay. But the signs of trouble are evident to one who looks beyond the parks and lakes and tree-lined streets. As with many other large cities, the problems are focused in the core city and are related to increasing concentrations there of the poor, many of them non-whites, and of the elderly. For example, nine out of 10 Black Americans in Minneapolis live in just one-tenth of the city's area. While Minneapolis contains 11.4% of the state's population, it supports 27% of the state's AFDC families. In addition, more than one out of every four school children in Minneapolis now is living in a low income (Title I criteria) home.

There has been a steady migration to the city by Indian Americans from the reservations and by poor whites from the small towns and rural areas of Minnesota. They come to the "promised land" of Minneapolis looking for a job and a better way of life. Some make it; many do not. In 1967 the city supported one out of 10 of the state's Indian Americans who were on relief; in 1969 the city supported three out of 10. The Indian American population is generally confined to the same small geographic areas where the Black Americans live. Estimates of the Indian unemployment rate vary, but range as high as 60%. These same areas of the city have the lowest median incomes in the city and the highest concentrations of dilapidated housing, welfare cases, and juvenile delinquency.

The elderly also are concentrated in the central city. In 1970, 15% of its population was over age 65. The elderly, like the 18 to 24 year old young adults, live near the central city because of the availability of less expensive housing in multiple-unit dwellings. Younger families

have continued to migrate toward the outer edges of the city and surrounding suburban areas.

The Minneapolis Schools

About 78,700 children go to school in Minneapolis. Most of them, about 64,200, attend one of the city's 99 public schools; 14,500 attend parochial or private schools.

The Minneapolis Public Schools, headed by Dr. John B. Davis, Jr., who became Superintendent in 1967, consists of 68 elementary schools (kindergarten-6th grade), 15 junior high schools (grades 7-9), nine high schools (grades 10-12), two junior-senior high schools, and five special schools. Over 3,700 certificated personnel are employed.

Control of the public school system ultimately rests with the seven member School Board. These non-salaried officials are elected by popular vote for staggered six year terms. The Superintendent serves as the Board's executive officer and professional adviser, and is selected by the Board.

The system's annual operating general fund budget in 1971 was $72,784,887 up from $62,385,985 in 1970 and 56,081,514 in 1969. Per pupil costs were $715 in 1970. The range of per pupil costs in the state for 1970 was from $387.00 to $908.00. The range of per pupil expenditure for school districts in the seven-county metropolitan area was $536 to $820 with a mean expenditure of $645.[1] Almost 40 cents of each local property tax dollar goes for school district levies. The School Board is a separate governmental agency which levies its own

[1]Per pupil cost is the adjusted maintenance cost from state and local funds and old federal programs, exclusive of transportation, per pupil unit in average daily attendance for the 1968-69 school year. Source of these figures is Minnesota Education Association Circular 7071-C2 Basic Financial Data of Minnesota Public School Districts, February, 1971.

taxes and sells its own bonds. Minneapolis also received federal funds totaling 4.2 million dollars in 1970-71 from many different federal aid programs. The Elementary and Secondary Education Act provided about 2.9 million dollars of which 2.5 million dollars was from Title I funds.

One of the Superintendent's goals has been to achieve greater communication among the system's schools through decentralization. Consequently two "pyramids" or groups of geographically related schools have been formed. First to be formed, in 1967, was the North Pyramid, consisting of North High School and the elementary and junior high schools which feed into it. In 1969 the South-Central Pyramid was formed around South and Central High Schools. Each pyramid has an area assistant superintendent as well as advisory groups of principals, teachers, and parents. The goals of the pyramid structure are to effect greater communication among schools and between schools and the community, to develop collaborative and cooperative programs, and to share particular facilities and competencies of teachers.

In 1970-71 there were 22 elementary schools, four junior highs, three senior highs, and five parochial schools serving children in areas eligible for programs funded under Title I of the Elementary and Secondary Education Act (ESEA). The federal criteria for selecting these schools are based on economic factors, in particular the number of families receiving AFDC or having incomes under $2,000. About 20,000 children attend these public and parochial schools. Of that number, about one-third of the children have non-white backgrounds, and one-third are defined by the State Department of Education as educationally disadvantaged, i. e. one or more grade levels behind in basic skills such as reading and arithmetic. Federal programs are concentrated on the educationally disadvantaged group.

Based on sight counts on October 20, 1970 the percentage of Black American pupils for the school district was 9.9%. Six years before the proportion was 5.4%. Indian American children currently comprise 3.7% of the school population, more than double the proportion of 6 years ago. The proportion of minority children in the various elementary schools generally reflects the prevailing housing pattern found in each school area. Although some non-white pupils are enrolled in every elementary school, non-white pupils are concentrated in two relatively small areas of the city. Of the 68 elementary schools, 11 have more than 30% non-white enrollment and five of these have over 50%. There are no all-black schools nor all-white schools. Thirty-three elementary schools have non-white enrollments of less than 5%.

The proportion of school age children in AFDC homes has almost doubled from approximately 12% in 1962 to 23% in 1971.

Turnover rate is the percent of students that come in new to the school or leave the school at some time during the school year (using the September enrollment as a base figure). While the median turnover rate for all the city schools in 1969-70 was about 22%, this figure varied widely according to location. Target area schools generally experienced a much higher turnover rate; in fact only two of the target area schools had turnover rates less than the city median. Compared with the city, the median for the target area schools was almost twice as large (41%).

The Project School and Its Neighborhood

The Clinton Pilot Cassette Project was initiated during the 1969-70 year at Clinton School, one of the elementary schools in the South-Central Pyramid designated eligible for Title I funds.

Clinton is an old yellow brick building, originally built in 1889, with an addition in 1920, located at the corner of Clinton Avenue and East 28th Street.

Clinton School had a kindergarten and grades one through six until a year ago; now classes are ungraded. There also are two special classes for mentally retarded children based in the building. In addition to the regular teaching staff there is a full-time Special Learning Behavior Problems (SLBP) teacher and part-time teachers for gym, music, shop, the library, speech and music.

Enrollment for 1970-71 was 381 students, of which 40 percent were from minority ethnic groups: 14 percent American Indian, 24 percent black, a few Mexican Americans. Fifty-nine percent of the children at Clinton were from families on AFDC. The pupil turnover rate has been high; 54 percent last year. Many of the children have medical and dental problems. The teacher turnover rate is average, with a current trend toward stability. Relatively little parent or community participation in school affairs has taken place.

Many individual and group efforts are being made to improve the home and school situations of the Clinton children. Included are school sponsored programs such as hot lunches, teacher aides and special reading programs. Private groups are pitching in, too. Among them are Honeywell, which is based just across the street from the school; Big Brothers, the Big Sister Association, WISE (Women in Service to Education) and the American Association of University Women (AAUW).

The Clinton School district is not a cohesive one. Unemployment, divorce, delinquency and neglect cases are common. Many of the area's families are transient, moving from one rental home to another several times a year. Much of the housing is substandard, although there are Model City plans for improvements.

Historical Background

If a child can't read he can't do the lesson. Right? Wrong. Now he can listen to it.

The Clinton Cassette Project was launched during the 1969-1970 school year to find out if children with reading problems could learn their lessons by listening to them on cassette tapes. The project is funded under Title I of the Elementary and Secondary Education Act and is now in its second year.

It's a pilot project. Although other school systems have used cassette tapes as teaching aids, the Clinton project is the first in the country to include setups for individual and group listening in every classroom. The idea is to make cassette tapes so easy to use that teachers and their pupils can't resist experimenting with them.

It works. Children are fascinated with the technical equipment and quickly learn how to operate the recorders and headsets independently. Most teachers at Clinton School are just as enthusiastic. They have put the recorders and tapes into daily use. Parents, who have become acquainted with the cassettes because the children may take them home overnight, are beginning to take a larger interest in their children' school activities.

The other thing that makes the Clinton project unique is the tapes, which are produced right at the school by the two veteran educators who operate the project. George Flugaur is the audiovisual coordinator and Mrs. Pat Schouweiler is the curriculum coordinator. The two moved into a three-room area at Clinton in February, 1970, with the commission to create a library of effective cassette tapes and to get them into daily use in every classroom.

These educators started by asking the teachers to specify what kinds of tapes they wanted. Most of the early requests were for tapes to help teach math and language arts. By the end of the 1969-70 school year about 200 tapes had been produced. Some were in use in every classroom, although they were used most extensively in the lower grades.

The two staff members devoted six weeks during the summer of 1970 to producing more tapes. A recording studio of sorts was installed -- improvised in a big closet, really. Preparing the tapes has been an experimental process. The discoveries and adaptations the staff members made along the way to producing a cassette library that includes materials in math, literature, language, social studies, science, music, speech and physical education are described in detail under Project Operations beginning on page 12.

Objectives of the Project

The goal of the project is to help youngsters who have reading problems learn their lessons by listening to them on cassette tapes.

Specific objectives for the 1970-71 school year were:

1. to create a library of cassette tapes that elementary school teachers in inner-city schools would consider to be meaningful and useful teaching aids;
2. to get the tapes into daily use both in the classrooms at Clinton School and in the homes of the Clinton School children.

The Staff

George Flugaur, audiovisual coordinator for the project, has 20 years under his belt as an elementary and secondary school teacher. He has a B.S. degree in elementary and secondary education and currently is working toward an M.A. in curriculum education with emphasis as an audiovisual specialist.

He has served as coordinator for the "English as a Second Language" program in the Minneapolis Schools' evening program; has been audiovisual coordinator for the summer school program, and has taught three professional growth courses in audiovisual education to teachers.

Mrs. Pat Schouweiler taught for 17 years before becoming curriculum coordinator for the Clinton project. She has a B.S. in art and elementary education. Her experience is in teaching grades one through four; seven years of it in inner-city schools.

Professional experiences that she credits as being especially helpful in doing her present job include writing curriculum as a general resource teacher for the Minneapolis Schools' summer program and serving as a coordinator in a course in human relations for new teachers at inner-city schools.

Staff: Mary Schouweiler, curriculum coordinator, and George J. Flugaur, the audiovisual coordinator

Clinton Elementary School houses the Cassette Project.

The two administrators are assisted by a clerk who does their typing and helps supervise the tape library.

Planning and Training

Planning is an ongoing process since the two project staff members work in the same room. Officially they hold an organization and planning meeting every Monday morning. They've also designated a weekly schedule for recording, duplicating, classroom observation and such.

Orienting and training the Clinton teaching staff has been a "softsell process," according to Mrs. Schouweiler. "We made friends. We invited them in to see the setup. We tried to be around...to schedule our coffee and lunch breaks so we could chat with them."

The two administrators used the weekly Clinton staff meetings to explain the project and took one piece of equipment to each meeting and showed the teachers how to use it. (All of the teachers already had had some experience and training in the use of audiovisual equipment, thanks to the visits of the Mobile Audiovisual Van, another Title I, ESEA project. Each teacher received a catalog that listed and described each tape available. Weekly fliers promoting timely topics on tape, such as those appropriate for Indian Week, were sent out.

The biggest part of the teacher training job is still in the works. That's helping teachers master the prescription process so that they can choose the best tape for each child's particular learning problems and skills. Plans are to emphasize this aspect of training during 1971-72.

Training the children was mainly a process of getting them involved, too.

"We asked each teacher to select a few children to set up the listening center in their room -- right out in the open, NOT in a closet." Flugaur explains. "Each teacher asked a few other children to help in the tape library.

"We invited the children to visit us, six at a time, and we showed them how to use the equipment. They caught on right away and now they love to use the recorders and viewers by themselves."

The "by themselves" quality is one key to the success of the program. The theory is that a teacher will use the tapes much more often if she doesn't have to be right there supervising the kids while they are listening.

"We wanted to show the teachers how the children could keep going without their constant help," Flugaur says. "It worked. They have found that it's a great way to present worthwhile experiences to one group of students while they are working with another group. It gives them a chance to individualize instruction without making it impersonal ; a great asset in our nongraded classes."

Mrs. Schouweiler promoted a constant exchange of information with teachers and children by making regular visits to the classrooms to observe, help and learn. She says that one of the major advantages of being based right in a school building is that she can get a daily feeling for how the project is going.

Project Operations

The students

During 1970-71 the cassettes were used primarily by the 148 children --

40 percent of the entire Clinton School enrollment -- who had been classified as "educationally disadvantaged."

These children, boys and girls ages six to 12, were representative of the school's multiracial character: 33 black, 75 white, 39 American Indian, one Mexican American.

They were identified as "educationally disadvantaged" by test results or by a certified person such as a teacher, psychologist or social worker. These children scored at the 25th percentile or lower on standard achievement tests, such as the Gates-MacGinitie Reading Test, the Iowa Basic Skills Test, or, in the case of first graders, on the Metropolitan Reading Readiness Test.

Because of their poor reading ability these children were handicapped in all of their subject areas. They not only couldn't read stories; they couldn't read math instructions or social studies materials either.

The Clinton Cassette Project was conceived to help them keep up in their other subjects while reading specialists were helping them improve their reading skills.

When members of the Minneapolis Schools' Central Office curriculum departments proposed the Clinton project they summarized the problems and needs of educationally disadvantaged children. Some of the points they made were:

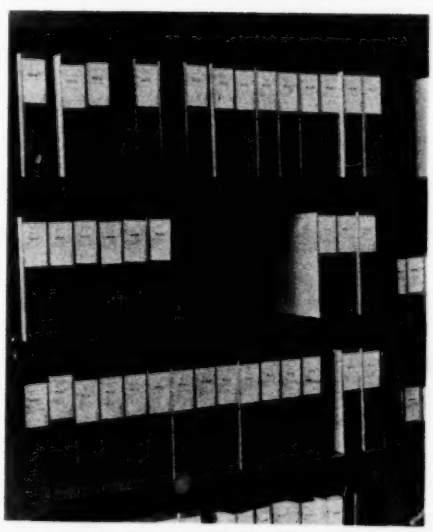
- that these children need to have resources adapted to a mode or style they can cope with;
- that they have poor self-images and need to see themselves as persons who can succeed;

- that they need to acquire a speaking knowledge of popular children's stories so they can join their friends in talking about these stories;
- that they need a way to learn through listening/viewing rather than through reading so they will be prepared for the greater demands that will be made on their vocabularies by middle grade texts;
- that they are not highly motivated to learn, have short attention spans, have difficulty both in giving and sustaining attention;
- that they need individual or small group help as well as room to work at a comfortable pace;
- that they have meager background and/or achievement, a lack of concrete experience for projecting themselves into studies as well as delayed language development in expressing ideas, speech patterns and usage;
- that they need to deal less with abstraction and more with meaningful experience;
- that they need to have parent-teacher communication to establish understandings.

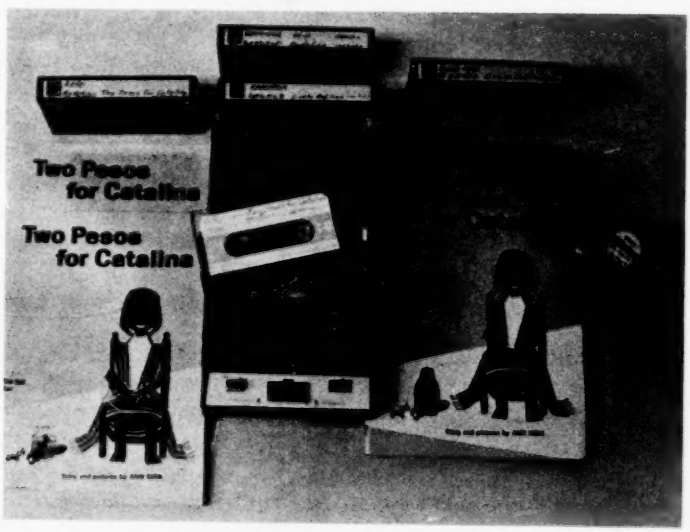
Speaking specifically of the children at Clinton School, Mrs. Schouweiler adds, "Most of the children are very verbal and quite intelligent but they have reading problems. They need incentive. They have a tremendous desire to read. They need help."

The Cassette Center Library

Children check out cassette recorders for overnight home use.



Library has open shelf setup.



Many cassette tapes coordinate with storybook.

Equipment and facilities

So much for the children's problems. Now a look at how cassette technology is being used to help them learn.

First, a few definitions. A cassette is a clear plastic cartridge about the size of a thin cigarette box that holds a recording tape. A cassette recorder is a tape recorder that takes this cartridge-type (rather than reel) tape. It's housed in a case that looks like one of the early model land camera cases. The beauties of the cassette recorder are:

- it's so easy to load and operate that a child can do it;
- it's battery operated and therefore mobile;
- the fidelity, although inferior to that of a phonograph record, doesn't deteriorate;
- it's cheap -- about $40 for a recorder; $1.00 for a blank tape;
- tapes are small and easy to store.

The Cassette Project staff members work in a smallish three-room area on the main floor of Clinton School.

When you enter you're in the library, a long narrow room lined with shelves. On the shelves are boxes, mostly about the size of a cereal box. At the back of the room there's a desk where the project clerk sits.

The second room, reached through the first, is an old classroom -- it still has wall-to-wall blackboards -- furnished with desks for the two co-ordinators, a high speed tape duplicator and a table with an ever-ready slide projector that holds a picture story of the project.

Room three is a converted closet that serves as a recording studio. It needs soundproofing -- tapes now are made in competition with 28th Street

traffic and water rushing through the plumbing that decorates the ceiling.

Here's a rundown of the major items of equipment. (A detailed list of project equipment is included in the appendix.)

There are 11 classroom setups in the building. Each setup includes two jackboxes, eight headsets that plug into them, two recorders and a small tabletop viewer. Total cost per room, about $125.

Teachers in the building share six DuKane cassette film strip viewers, each about the size of a small TV; and two slide projectors. A viewer costs about $200; a projector about $80.

The most expensive item of equipment is a $2,900 high speed tape duplicator. After a lesson is produced on a cassette tape it can be duplicated on the spot. The machine can make three duplicates of a 20-minute tape in five minutes. It allows duplicating reel to cassette, reel to reel, cassette to cassette and cassette to reel.

The major pieces of equipment in the recording studio are a phonograph, a mike, two reel tape recorders, two cassette tape recorders, an amplifier and mixers, a monitoring system and an AM-FM cassette recorder. The whole pile costs about $700.

The fine art of cassette tape making

Asked for some general guidelines Flugaur said they have found that the most effective tapes are those which:

1. Begin with a musical stall time of one or two minutes to give the child time to warm up.
2. Provide immediate reinforcement. A tape might give a math problem, help with it, ask the child to give the answer, tell him the

answer and urge him to change his if it's wrong, then tell him to go on to the next problem. It's supposed to be a learning experience, not a test.

3. Use a teacher's voice, or sometimes a child's voice, to make the tape. ("I pretend I'm in a classroom teaching," Flugaur says. "We tried using professional radio announcers but found that their delivery was too hard sell.")
4. Last about 22 minutes.

Some of the other techniques that the staff has found effective are:

1. Inviting children to edit tapes and give suggestions;
2. Occasionally telling the child something like "now this is going to be a hard problem" right on the tape;
3. Using male voices on tapes, because so many of the children do not have a father at home;
4. Tailoring lessons to the child who lives in the city by presenting materials that mean something to him.

Because not all children respond to the same teaching techniques, the staff often makes a number of tapes dealing with the same facts but using different approaches. One tape might request written responses, one oral responses, one might be paced more slowly, one might ask all the questions at the end of the lesson instead of after each part of it. Teachers and pupils try them all in an attempt to find out which ones are most effective for teaching each individual child.

Not all of the tapes are made from scratch right at Clinton.

"We have our fingers in many different resources," Mrs. Schouweiler

comments. "We use a few tapes as they come and adapt the rest."

So far a cassette tape library of 884 different tapes has been compiled; 412 in language arts, 65 in literature, 88 in math, 209 in social studies, 50 in science, 25 in physical education, 29 in music and six in speech.

Here's a listing of the sources:

1. Produced by Clinton Cassette Center
   - original production 80
   - incorporating material from other sources 425
2. Produced by a radio station (KBEM or KUOM) and/or various school systems, with permission granted to reproduce materials 99
3. Commercially produced; screened and selected for use with disadvantaged children
   - purchased as a cassette 75
   - duplicated to cassette from record or reel 240

Radio broadcasts, such as the Minneapolis Schools' KBEM-FM series called "Gopher Tales," "Let's Write" and "This is Music," are taped right at Clinton and converted to cassette tapes so that teachers are free to use the lessons at their convenience.

The staff has written to local and national publishing sources for permission to reproduce materials in books, magazines and newspapers. Usually the response is "yes."

During the summer of 1971 the staff made cassette tapes to accompany film strips already owned by the Minneapolis Schools. They

also hand made a number of film strips for children to see in table viewers as they listen to tapes.

The most ambitious summer project was production of a series of 30 tapes for use in fifth grade social studies classes. The tapes are planned to help children learn U.S. history and geography. The approach is multiethnic. A jewish family with two children is taking a car trip. Each child has brought along a friend; one a black child, one an Indian child. The father, a history teacher and a humanitarian, serves as the major feed in for information. The tapes relate the experiences the family has as it travels, including encounters with prejudice.

The tape library

A few words about the library and how the 884 tapes are displayed. It's an open shelf setup. Each lesson is housed in its own box, mostly a made-to-order 9x12x2 size, along with accompanying materials. On the outside of each box there's a label that tells the subject, title, catalog number, what's inside the box, suggested use of the materials and what the tape is about. Inside the box cover there's a library card. The check out system is like that in most libraries. (See the appendix for sample label and library card.)

Open some of the boxes and see what's inside:

- a cassette tape and a story book; or,
- a tape, a booklet with the printed story, a six-question recall lesson, a map; or
- a tape and a loaded slide tray; or
- a tape and a film strip; or

. a tape, a booklet, a picture to color.

In one box there's a tape and a poem too charming to put back without sharing.

I Dreamed I had a Pony

I dreamed that I had a horse,
And I rode him up the hill and rode him down.
It was fun, until dinner time.
We had spaghetti,
It feels stringy,
Tastes spicy.
When I got through I went to ride my horse.
The horse is black,
He feels bumpy,
He makes the dust fly in the air,
He goes fast.
It feels like I'm goin to fall,
I feel scared.
I'm going to slide back on.
Then it starts to get dark,
Then I have to go in.
I put the horse away.
I watch TV for awhile,
Then I go to bed and dream another dream.

Rhonda Davis, a fourth grader at Clinton, dictated this original poem onto a cassette tape. It's used for language arts lessons.

Very few of the boxes contain just a cassette tape. That's because the primary activity in using the tapes is listening and following along visually, most often on a printed page or in a book; sometimes on a film strip or slides.

How the prescription process works - when it works

How do the tapes get from the library to the child? Sometimes children come in and select their own tapes, especially stories, but usually materials are teacher-prescribed. The teacher's primary job in the Cassette Project is individual prescription.

Here's an example of how it works.

A Title I aide, Mrs. Liz Lofgren, came to the Center for help. She was assigned to seven children, nine and ten year olds in a fourth grade class, who had been performing their lessons so poorly that their teacher asked Mrs. Lofgren to work with them and see what she could do. The children couldn't handle basic facts, had poor study habits and poor behavioral habits.

The staff gave her a set of nine tapes on addition and nine on subtraction designed to teach the fundamentals of math. Each tape took a different approach to teaching the same 100 facts. All of the tapes were made at the Center.

Goals were to see if, after 10 half-hour sessions, children could demonstrate significant increases in their ability to:

1. add sums to 18 as measured by a four-minute pretest and posttest of 100 basic addition facts;
2. subtract differences up to 18 minus 9 as measured by a four-minute pretest and posttest of 100 basic subtraction facts.

The children listened to the tapes at the listening center in their own classroom. Here are the beautiful results!

Table 1
Testing Results of Children Who Used Cassette Math Tapes

Addition - 100 basic facts - sums to 18

Name[1]	Pretest	Posttest	Difference	Percent gain
Barry	58	99	41	70%
John	32	83	51	159
Richard	46	77	31	67
Janice	55	100	45	82
Betsy	40	73	33	82
Carrie	52	100	48	92
Joan	39	52	13	33
Average	46	83	37	84%

Subtraction - 100 basic facts differences up to 18 minus 9

Barry	43	73	30	69%
John	29	62	33	114
Richard	30	51	21	70
Janice	40	60	20	50
Betsy	32	54	22	69
Carrie	42	84	42	100
Joan	25	31	6	24
Average	34	59	24	71%

[1]The children's names have been changed.

Some comments about the experience follow:

. Gains were more pronounced during the first six meetings; perhaps

because it's easier to show gains from 30 to 50 than from 50 to 70.

- Students showed significant changes in their ability to work individually; to assume responsibility for their own learning.
- Competing with themselves was the most significant motivation.
- The students asked to use cassette tapes for other learning activities.
- Mr. Williams, their homeroom teacher, said the students improved in their ability to add and subtract to a point where they were even with, or better than, their classmates.
- The aide's execution of this series of lessons is an excellent demonstration of the impact good support people with the proper facilities can make.

Clinton Cassette Center Budget 1970-71

Salaries		
1 resource teacher, 38 weeks		$11,900.
1 audio-visual coordinator, 38 weeks		14,715.
1 clerk-typist I, @ $392/month		4,704.
9% fringe benefits		2,819.
		34,138.
Other expenses		
Instructional supplies		456.
Cassette lab equipment		880.
Classroom equipment		1,109.
1500 tapes @ $1.00		1,500.
		3,945.
	Total	$38,083.

Parent - Community Involvement

In the past there had been little parent or community participation in the activities at Clinton School.

By encouraging children to take the cassette recorders home overnight project planners hoped that parents would take an added interest in their children's learning progress.

Happily, that's just what has happened!

Messages from the teachers, academic lessons, recreational stories and blank tapes all have been sent home with the children, who have kept the approximately 25 cassette recorders available in use every Monday through Thursday night. Often the blank tapes come back with messages parents have taped for their children's teachers.

Parents were introduced to the Cassette Project at two fall 1970 PTA meetings. At one, a slide presentation explaining project goals and procedures was shown; at another, the equipment was there to see, touch and operate. Since then, parents visiting the school have dropped in to see the Cassette Project setup.

One of the most enthusiastic parents has been a mother who was so delighted with the series of tapes on American Indians that she sent a request via her children to have the whole series sent home. She wanted her entire family to hear it. Since then she has made some tapes for the project, talking about her feelings about being poor and about Indianness.

Community groups also have taken an interest in what's going on. People from Model Cities, the Title I Advisory Committee and the South Pyramid Community Council all have visited Clinton to see the Cassette Project. Most said they'd like to see it in their children's schools.

Dissemination and Communications

Using duplicates of the tapes at Clinton, the staff set up cassette tape libraries at three other Title I elementary schools in the South-Central Pyramid: Adams, Irving and Madison. Each school was supplied with 180 tapes selected by the teachers at the schools.

Flugaur says that the tapes were not used nearly as frequently as they had hoped because none of the schools was adequately equipped with recorders and other equipment for individual classroom and home use.

"But it did give us access to 40 more teachers and helped spread the word about our project within the system," he says.

Many professional groups have toured the Clinton setup, including Minneapolis Schools Central Office personnel, a group of Special Learning Behavior Problems (SLBP) teachers, 30 student-teachers from St. Cloud State College and a similar group from Moorhead State College. Lots of educators have telephoned the Center to get information about curriculum, materials and equipment.

Articles describing the project were printed in the June 1970 and March 1971 issues of the South-Central Pyramid News. Although facts about the Clinton Cassette Project were included in a recently published brochure about all Minneapolis Schools' Title I ESEA, projects, the Center staff would like to have a brochure devoted exclusively to telling the Cassette Project story.

The Research and Evaluation Department previously has published two evaluation studies about the project. Clinton Pilot Cassette Center, Project Director's Report and Evaluation Addendum, 1969-70, published in March 1971, was distributed to all Minneapolis Schools' administrators,

consultants, directors, assistant directors and elementary school principals; to members of the Minneapolis School Board, and to 18 school districts throughout the United States that requested information about the project. Teachers' Ratings of Cassettes Developed at The Clinton Pilot Cassette Center, Clinton Elementary School, Summer 1971, published in September 1971, was given a limited distribution within the Minneapolis School System.

Project Results

Based on empirical information the staff feels that the initial thrust of the Clinton Cassette Project has been very successful. They cite teachers' requests for more tapes and services as well as their innovative suggestions as proof of their enthusiasm for the project.

The staff says that the students have come to accept the project as a stimulating facet of their school program; that the students look forward to using the cassette recorders in class and have been particularly excited about the opportunity to take the recorders home overnight.

The response from parents has been positive -- they are becoming proud of their children's school.

Production of tapes

One of the specific goals for 1970-71 was production of a library of cassette tapes with supporting materials. The staff produced and collected a total of 884 tapes during 1970-71 and planned to produce still more during the summer.

The number of tapes produced in each category is listed here.

Literature	65
Language arts	412
Math	88
Social studies	209
Science	50
Physical education	25
Music	29
Speech	6

Circulation of tapes

The other specific goal was to get the tapes into daily use in classrooms and homes, or -- as it was worded in the original proposal: "The teachers and children in Clinton School will demonstrate an interest in learning through use of cassette tape lessons and accompanying materials as measured by the circulation of cassette tape lessons." The circulation figures, summarized here, show that the 148 children used the tapes 8,159 times!

Table 2
Circulation of Cassette Tapes, October 1970-May 1971

Subject	Oct. 15-30	Nov.	Dec. 1-18	Jan.	Feb.	Mar.	Apr.	May	Total (Oct.-May)
Literature	107	305	160	210	254	343	274	415	2068
Lang. Arts	165	513	283	354	423	536	357	526	3157
Math	69	227	118	122	91	89	56	96	868
Soc. Studies	44	215	151	160	240	230	215	220	1475
Science	12	6	20	16	41	26	17	15	153
Phy. Ed.	25	37	18		4	24	24	18	150
Music	33	51	38	50	20	54	20	18	284
Speech					4				4
All Subjects	455	1354	788	912	1077	1302	963	1308	8159

First year achievement results

To assess the first-year results of the Cassette Project between January and June 1970, two classes at Clinton that had received considerable assistance with cassettes were compared with two classes at a nearby Title I school where cassettes were not used. Groups were compared on reading, vocabulary and spelling following eight weeks of instruction. Although neither group improved on spelling, the Clinton group made a significant gain in reading vocabulary. More than 90% of the Clinton children made some gains in vocabulary during this short period (which was interrupted by a two-week teachers' strike) while only 39% of the comparison group children made gains. The complete report, Clinton Pilot Cassette Center, Project Director's Report and Evaluation Addendum, 1969-70, is available from the Research and Evaluation Department.

Results of teachers' ratings of tapes

During a Summer 1971 two-week workshop, 14 elementary teachers evaluated 146 randomly selected audio tapes produced by the Cassette Project. Results are summarized below. The complete report, Teachers' Ratings of Cassettes Developed at the Clinton Pilot Cassette Center, Clinton Elementary School, Summer 1971, is available from the R&E Department.

1. Appropriateness. Teachers rated most of the tapes suitable for use with educationally disadvantaged youth. Two-thirds were rated more suitable for grades 4-6 than 1-3. The tapes were rated by 70% of the teachers to be more effective than most other kinds of instructional materials for teaching subject matter to disabled readers.

2. Quality. General quality and content of the tapes were rated good. Tapes made at the Center or purchased from commercial sources were rated better for use with poor readers than tapes recorded from radio broadcasts or purchased from other school districts.

3. Content. Subject areas evaluated were science, math, language arts and social studies. Math tapes were judged best in skills and concepts presented, but not as interesting as they might have been. Language arts tapes were judged in need of improvement in presentation of subject matter. Science tapes were rated highly effective although some were judged too difficult for elementary children.

Evaluation questionnaire for participating teachers

The 21 teachers most closely associated with the Cassette Project -- all 12 Clinton classroom teachers and nine teachers from Adams, Irving and Madison Schools where 180-tape duplicate libraries were established during the year -- completed an evaluation questionnaire prepared by the project staff in May 1971. See Table I, page 30, for a breakdown of their responses.

The Clinton School teachers gave overwhelmingly positive responses to the six multiple choice questions, which dealt with the relevance of the project to the needs of Title I children, with project operations, and with their use of the tapes.

Teachers from the other elementary schools were slightly less enthusiastic about the project. Although 89% rated the project "very relevant" or "extremely relevant," 67% reported only "some use of the tapes." However, 77% said they would use new tape lessons "quite a bit" or "a great deal" as they were developed.

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Table 3

Participating Teachers' Evaluation Questionnaire

Question	Choices	Clinton Teachers N=12	Other Teachers N=9	All Teachers N=21
1. How relevant is the Clinton Cassette Center to the needs of Title I educationally disadvantaged children?	Extremely relevant	42%	11%	29%
	Very relevant	50	78	62
	Moderately relevant	8	11	10
	Not very relevant	0	0	0
	Completely unrelated	0	0	0
2. How do you rate the organization and utilization procedures of the Clinton Cassette Center?	Excellent	67	22	48
	Above average	33	44	38
	Average	0	33	14
	Below Average	0	0	0
	Poor	0	0	0
3. To what extent have you used the Clinton Cassette Program?	A great deal	50	0	29
	Quite a bit	33	33	33
	Some	17	67	38
	A little	0	0	0
	Not at all	0	0	0
4. To what extent do you think you will use the cassette project as new tape lessons are added to the cassette library?	A great deal	50	11	33
	Quite a bit	50	78	62
	Some	0	11	5
	A little	0	0	0
	Not at all	0	0	0
5. To what extent do you think you will use new materials or approaches in your classroom as a result of the Clinton Project?	A great deal	33	0	19
	Quite a bit	58	44	52
	Some	8	56	29
	A little	0	0	0
	Not at all	0	0	0
6. All in all, how worthwhile is the Clinton Cassette Project?	A great deal	75	22	52
	Quite a bit	25	56	38
	Some	0	22	10
	A little	0	0	0
	Not at all	0	0	0

The teachers were asked for comments on three other questions about the project. Questions, together with some of the answers, follow.

7. What do you like most about the Clinton Cassette Project?

- It is a great help in meeting individual needs. The taped lessons can double or triple the effectiveness of the classroom teacher.
- It offers another medium of teaching that children like and they perform much better.
- It helps in reading, language arts and arithmetic. I like stories, filmstrips and tape sets.
- I like the helpful attitude, willingness to do new things, rapid way that things get on the shelf.
- The availability of a complete lesson on a moment's notice has been a real lifesaver to me as a substitute teacher. The children respond very well and I find the tapes easy to work with and more valuable than "busy work" I sometimes have to use.
- It allows individual instruction that is fun. The children love it. The staff is helpful.
- I like the immediate availability of materials and being able to transfer materials from school to school.
- The helpful people! The positive learning activity for children.
- Many of the tapes are directly related to what we teach because teachers have been involved in production.
- The great variety of subjects - being able to find materials in all subjects, at all levels.
- The added aid in reading motivation.

8. What would make it more useful?

- More release time for the classroom teacher to make tapes with the cassette coordinators.
- I can't think of anything -- as it's just excellent as it is.
- Increased difficulty in tapes on arithmetic, reading and language arts. More tapes in science.
- More time for me to get acquainted with it.
- More! Tape and filmstrip and book sets. Even the very low readers like to "follow" in the book.
- Checking the tapes as they come in to assure order. I've gotten some without worksheets and broken.
- To know the children eligible for its use in the beginning of the school term so as to concentrate on them.
- If it were extended to serve other Minneapolis Schools (i.e. so I could have complete access to materials in other schools I travel to).
- More free time for teachers to make tapes.
- Having more recorders to check out overnight.
- More supplementary reading at intermediate (easy) level.
- More science material on animals at intermediate level.

9. Any other comments?

- Mr. Flugaur and Mrs. Schouweiler are fantastic people in that they are so helpful in aiding the classroom teachers in any way possible. They are both extremely competent, well qualified people.
- Especially the many subject areas available, the way they are catalogued is great.

- I think the cassette program is off to a good start in the education of children at Clinton School.
- Learning center experience - a good filmstrip and tape provides therapy as well as knowledge for those children who find a classroom confining and frustrating. A few minutes "unwinding" and they're ready to go back to classwork.
- I appreciate your pointing out ways to me where the Cassette Program can help my speech therapy program.
- Excellent in helping develop listening skills in young learners.
- I could not run reading class without the Cassette Project - tapes are great lessons - children love them - makes the room noise level decrease for a change.

Conclusion and Recommendations

After experimenting with various methods of producing, packaging and circulating cassette tape lessons the staff feels that it has established a cassette technology that is working successfully at Clinton School. Cassette tape libraries also have been initiated at Adams, Irving and Madison elementary schools.

The project staff makes the following recommendations and requests for the 1971-72 school year.

1. The Clinton Cassette Project should be expanded to include 10 more Title I elementary schools in the South-Central Pyramid. The staff would duplicate the tapes they have prepared for Clinton School for use at the other schools and help the teaching staff at each school set up and run a cassette tape library and listening/viewing centers in each classroom. A detailed

proposal to this effect was submitted with the Clinton Cassette Project budget request for 1971-72.

2. The goals listed on page 9 of this report should continue to be the goals of the project next year. Emphasis should be placed on helping teachers master the technique of individual prescription...matching the right tape to each child's needs.

3. The recording studio at Clinton should be soundproofed so that tapes of a higher sound quality can be produced.

4. Teachers who wish to record tapes for the project should be given half-day periods of released time from their regular assignments for this purpose.

5. A review board of three or four interested and qualified teachers should be designated to evaluate and edit tapes before they are distributed for classroom use.

6. An indepth evaluation should be conducted by the Minneapolis Public Schools research department to determine possibilities of citywide involvement in a cassette program.

7. A brochure that tells the Clinton Cassette Project story should be prepared for distribution to interested educators, parents and community citizens.

8. The Minneapolis Schools gradually should assume the responsibility for funding this project so that cassette tape lessons can be used city wide, not just in Title I schools.

Additional Information

Calls for information may be made to the Cassette Center, Area 612, 823-2320.

Appendix

Exhibit 1

Clinton Cassette Project
Space and Equipment Requirements

Space Needs

A minimum of one classroom near the library to serve the following needs:

1. A cassette laboratory
2. Storage space for classroom equipment
3. Cataloguing space
4. Office space for:

   Audiovisual coordinator

   Resource teacher

   Clerk
5. Consultation-demonstration area

Equipment Needs

1. Cassette laboratory equipment	Manufacturer	Model
1 - 20W amplifier	Bogen	CHS20
1 - mixer 4 pots	Bogen	MX6A-T
1 - microphone with stand	Electro-Voice	664
1 - audio speaker	Wharfedale	400
1 - turntable	Dual	1209
1 - AM-FM radio cassette recorder	Panasonic	RF-7270
1 - reel-to-reel tape recorder	Sony-matic	TC-105A
2 - cassette tape recorders	Wollensak	2520 AV
2 - set editing equipment		
1 - headphones		
1 - FM aerial with lead-in to lab area		
1 - cassette eraser	Sony	BE-7
Installation of laboratory equipment		

2. Classroom Equipment

	Manufacturer	Model
29 - jackbox sets (4-station)		
114 - headphone sets	Telex	610
53 - cassette recorders	Wollensak	4200
6 - AV matic projectors	DuKane	28A11
3 - slide projectors	Sawyer Anscomatic	680
	Sawyer	550
	Honeywell	620
1 - camera	Bell & Howell	342 Autoload 35MM
8 - sets steel shelves (2 - 36" sections in each set)	Quik-Lok	
3 - lockable steel cabinets		
12 - slide trays		
2 - carousel trays		
15 - filmstrip viewers	Hudson	330

3. Classroom supplies

1655 - cassette tapes
66 - 7-inch tapes
12 - take-up reels

4. Additional library equipment

Storage racks for cassette tapes
Five-drawer catalogue stand
Supplies: cards, pockets

5. Office equipment

2 - library tables
3 - desks
2 - chairs for desks
1 - steno chair
3 - two-drawer files with locks
1 - Olympia typewriter
1 - typewriter table

Exhibit 2

Clinton Cassette Project
Library Card and Labels

SS 200.01	**TITLE** PLANS ARE MADE SS 200.01
PLANS ARE MADE WHEELS ACROSS THE MAINLAND #1	**CONTENTS** One cassette tape, 15 booklets, mapskill sheets transparency and studysheets Time: 20 min. Produced by Clinton Cassette Center 197 Materials needed: pencil and crayons Inter. level Students may read along or just listen to the script written as a play. In the story the Green family makes plans for an extended camping trip through Central, Southern and Eastern sections of the United States. This is the first in a series of lessons emphasizing minority contributions in the development of the United States. **Clinton Cassette Center, Minneapolis, Minn.**

SS 200.01

PLANS ARE MADE

DATE DUE	BORROWER'S NAME	ROOM NUMBER
GAYLORD 80		

SS 200.01 PLANS ARE MADE

20 min.

Clinton Cassette Center, Minneapolis, Minn.

Minneapolis Public Schools

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Planning, Development and Federal Programs

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